Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method for routing data frames ~~to a bridge port in a bridge device having a shared forwarding database~~, the method comprising:

providing a bridge device having a plurality of ports and a shared forwarding database;

creating an entry in the shared forwarding database, the entry indexed by an address and the entry indicating that data addressed to ~~an~~ the address should be source routed;

receiving, at the bridge device, a data frame addressed to the address;

determining that the data frame requires source routing based on the entry in the shared forwarding database;

reading source routing data from the data frame, the source routing data independent of the address;

identifying a port, from among the plurality of ports, based at least in part on ~~corresponding to~~ the source routing data; and,

sending the data frame to the identified port.

2. (Currently Amended) The method of claim 1 wherein the data frame comprises a VLAN tag and reading the source routing data from the data frame comprises reading the VLAN tag.

3. (Currently Amended) The method of claim 2 wherein each of the plurality of ports is associated with a port VLAN identifier ~~and identifying a port corresponding to the source routing data comprises identifying a port having a port VLAN identifier which is the same as a VID from the VLAN tag~~.

4. (Original) The method of claim 1 wherein the address comprises a MAC address of a device and determining that the data frame requires source routing comprises looking up the MAC address in the shared forwarding database.

5. (Original) The method of claim 1 comprising applying one or more inbound rules to the data frame before determining that the data frame requires source routing.

6. (Currently Amended) The method of claim 5 comprising applying one or more outbound rules to the data frame after identifying ~~a~~ the port, from among the plurality of ports, based at least in part on ~~corresponding to~~ the source routing data.

7. (Currently Amended) The method of claim 1 comprising applying one or more outbound rules to the data frame after identifying ~~a~~ the port, from among the plurality of ports, based at least in part on ~~corresponding to~~ the source routing data.

8. (Currently Amended) The method of claim ~~1~~ 3 wherein reading the VLAN tag comprises reading a first VID specified in the VLAN tag and wherein identifying ~~a bridge~~ the port, from among the plurality of ports, based at least in part on ~~corresponding to~~ the source routing

data comprises identifying ~~a bridge~~ the port ~~having a~~ associated with the port VLAN identifier equal to ~~a VID specified in the VLAN tag~~ the first VID.

9. (Currently Amended) The method of claim 8 comprising receiving a second data frame at the ~~bridge~~ identified port of the bridge device and tagging the second data frame with a second VLAN tag, the second VLAN tag comprising a second VID ~~determined by~~ equal to the port VLAN identifier associated with the identified port.

10. (Currently Amended) The method of claim ~~1~~ 3 wherein reading the VLAN tag comprises reading a first VID specified in the VLAN tag and wherein identifying ~~a~~ ~~bridge~~ the port, from among the plurality of ports, based at least in part on ~~corresponding to~~ the source routing data comprises identifying ~~a bridge~~ the port ~~having a~~ associated with the port VLAN identifier corresponding to ~~a VID specified in the VLAN tag~~ the first VID according to a correspondence maintained in the bridge.

11. (Currently Amended) The method of claim 10 comprising receiving a second data frame at ~~a bridge~~ the identified port of the bridge device and tagging the second data frame with a second VLAN tag, the second VLAN tag comprising a second VID ~~equal~~ corresponding to ~~a~~ the port VLAN identifier associated with the ~~bridge~~ identified port according to the correspondence maintained in the bridge.

12. (Currently Amended) The method of claim ~~1~~ 14 comprising:

receiving, at the bridge device, a third data frame from the address;

using the address to look up the entry in the shared forwarding database

determining that ~~data sent to the address requires source routing~~ the shared forwarding database should not be dynamically updated in response to receiving the third data frame based on the entry in the shared forwarding database indicating that data addressed to the address should be source routed [[; and,]]

~~not dynamically updating the entry in the shared forwarding database in response to determining that data sent to the address requires source routing~~.

13. (Currently Amended) A bridge comprising:

a plurality of bridge ports;

a shared forwarding database, the shared forwarding database comprising a plurality of first records, each first record associating an address with one of the bridge ports, and at least one second record, the at least one second record associating ~~an~~ a corresponding second address with information indicating that data sent to the corresponding second address ~~of the second record~~ requires source routing;

the bridge being configured to respond to receipt of a data frame addressed to the corresponding second address ~~of the second record~~ by:

determining from the at least one second record that the data frame requires source routing;

reading source routing information from the data frame, the source routing information independent of the corresponding second address; and,

~~forward~~ forwarding the data frame to one of the bridge ports based upon the source routing information.

14. (New) The method of claim 1 comprising:

receiving, at the bridge device, a second data frame from a second address at a second one of the plurality of ports; and

dynamically updating the shared forwarding database in response to receiving the second data frame, wherein dynamically updating the shared forwarding database comprises:

using the second address to look up a second entry in the shared forwarding database, the second entry indexed by the second address;

if the second entry is present in the shared forwarding database, ensuring that the second entry indicates that data addressed to the second address should be routed to the second one of the plurality of ports; and

if the second entry is not present in the shared forwarding database, creating the second entry and ensuring that the second entry indicates that data addressed to the second address should be routed to the second one of the plurality of ports.

15. (New) The method of claim 14 comprising:

reading a destination address from the second data frame;

using the destination address to look up a third entry in the shared forwarding database, the third entry indexed by the destination address and the third entry indicating that data addressed to the destination address

should be routed to a third one of the plurality of ports; and

routing the second data frame to the third one of the plurality of ports.

16. (New) The method of claim 8 comprising:

receiving, at the bridge device, a second data frame from a second address at a second one of the plurality of ports; and

dynamically updating the shared forwarding database in response to receiving the second data frame, wherein dynamically updating the shared forwarding database comprises:

using the second address to look up a second entry in the shared forwarding database, the second entry indexed by the second address;

if the second entry is present in the shared forwarding database, ensuring that the second entry indicates that data addressed to the second address should be routed to the second one of the plurality of ports; and

if the second entry is not present in the shared forwarding database, creating the second entry and ensuring that the second entry indicates that data addressed to the second address should be routed to the second one of the plurality of ports.

17. (New) The method of claim 16 comprising:

receiving, at the bridge device, a third data frame from the address;

using the address to look up the entry in the shared forwarding database

determining that the shared forwarding database should not be dynamically updated in response to receiving the third data frame based on the entry in the shared forwarding database indicating that data addressed to the address should be source routed.

18. (New) The method of claim 16 comprising:

reading a destination address from the second data frame;

using the destination address to look up a third entry in the shared forwarding database, the third entry indexed by the destination address and the third entry indicating that data addressed to the destination address should be routed to a third one of the plurality of ports; and

routing the second data frame to the third one of the plurality of ports.